

REMARKS

Claims 1-23 have been examined. Claims 1, 2, 3, 6, 11 and 14 have been rejected under 35 U.S.C. § 102(b), and claims 4, 5, 7-10, 12, 13 and 15-23 have been rejected under 35 U.S.C. § 103(a).

I. Preliminary Matters

The Examiner has objected to Figures 1-4 as not being labeled "Prior Art." Accordingly, Applicant submits herewith 3 sheets of replacement formal drawings for Figures 1-4 as requested by the Examiner.

Also, the Examiner has objected to claims 4, 20 and 22 due to minor informalities. Accordingly, Applicant has amended claims 4 and 20 in a manner believed to overcome the objection. Such amendments are not made in view of the prior art.

In regard to claim 22, the Examiner maintains that the claim does not recite whether the lengthwise direction is horizontal, vertical or diagonal. However, the lengthwise direction is recited in regard to the first conductive column or the second conductive column. The term "lengthwise" means running or extending in the direction of the length or in reference to the direction of length. Accordingly, the claimed lengthwise direction will run along the direction of length of the first or second conductive column regardless of whether the columns are placed vertically, horizontally or diagonally. Thus, Applicant submits that the lengthwise direction is defined. Applicant refers the Examiner, merely as an example, to the non-limiting embodiment shown in Figure 13(b) and discussed in paragraphs [52] to [54] of the present Application.

Further, the Examiner has rejected at least claims 4, 8 and 15 in view of U.S. Patent No. 6,771,346 to Sugimoto et al. However, the Examiner did not list Sugimoto on the PTO-892 form (List of References Cited). Accordingly, Applicant respectfully requests the Examiner to list the document on a PTO-892 form in a subsequent Office Action so that Sugimoto will be properly listed of record in the Application.

II. Rejections under 35 U.S.C. § 102(b) in view of U.S. Patent No. 5,929,959 to Iida et al. (“Iida”).

The Examiner has rejected claims 1, 2, 3, 6, 11 and 14 under 35 U.S.C. § 102(b) as allegedly being anticipated by Iida.

A. Claim 1

Claim 1 recites at least one first conductive column and at least one conductive column contact portion. The first conductive column is formed on the first substrate, and comprises a ground column comprised of an elastic resin and a first electrode which covers the ground column. The conductive column contact portion is electrically connected to the conductive column by the contact of the first electrode, and formed above the second substrate.

Applicant submits that having at least one first conductive column and at least one conductive column contact portion make it possible to perform stable connection between the conductive column and the conductive column contact portion. Excessive stress due to shrinkage of the sealing material is reduced and a constant spacing is maintained between the

first substrate and the second substrate because the ground column is made of an elastic resin (see, non-limiting embodiments on pg. 13, lines 7-13).

In addition, the present invention does not require the use of silver paste. Rather, as recited in claim 1, electrical connection between the conductive column and the conductive column contact portion is realized by the contact between the first electrode and the conductive column contact portion.

Applicant submits that Iida fails to teach or suggest the claimed first conductive column. The Examiner maintains that element 111 of Iida discloses the claimed first conductive column. However, element 111 of Iida is a silver paste (col. 3, lines 1-12). For the reasons set forth above, Applicant submits that the silver paste 111 fails to teach or suggest the claimed first conductive column.

Further, the Examiner alleges that, “at least one first conductive column (111) on the first substrate (101) and at least one conductive column contact portion (109B and 110) electrically connected to the conductive column (101) and formed above the second substrate (103)” (page 3 of Office Action). Applicant submits that Iida’s second electrode section 109B (alleged one conductive column contact portion) is formed on the lower substrate 101 (alleged first substrate), **not** on the upper substrate 103 (alleged second substrate), as recited in claim 1 (see col. 3 line 4-5, Fig. 5 of Iida).

Also, the Examiner alleges that, “a first conductive column (111) comprises of a ground column (111 connected to ground electrode 104 which makes it a ground column) and a first electrode (109A) which covers the ground column.” (page 3 of Office Action). Applicant

submits that the combination of the silver paste 111 and the ground electrode 104 fails to teach or suggest the ground column recited in claim 1. Further, even if Applicant assumed *arguendo* that the silver paste and the ground electrode 104 formed a part of a ground column, Iida's first electrode section 109A (alleged first electrode) does not cover the alleged ground column, as recited in claim 1. Rather, it is formed on the upper substrate 103 (alleged second substrate) (see col. 3 line 3-4, Fig. 5 of Iida).

Finally, Iida's first electrode section 109A (alleged first electrode) is not in contact with the second electrode section 109B (alleged one conductive column contact portion), as recited in claim 1 (see Fig. 5 of Iida).

For the foregoing reasons, Applicant submits that independent claim 1 is not anticipated by Iida, and is therefore patentable. Applicant respectfully requests the Examiner to reconsider and withdraw the rejection.

B. Claims 2, 3, 6, 11 and 14

Since claims 3, 6, 11 and 14 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

Also, since claim 2 was canceled, without prejudice or disclaimer, and incorporated into claim 1, Applicant refers to the Examiner to the comments presented above for claim 1.

III. Rejections under 35 U.S.C. § 103(a) in view of Iida and U.S. Patent No. 6,771,346 to Sugimoto et al. (“Sugimoto”).

The Examiner has rejected claims 4, 8 and 15 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida in view of Sugimoto. However, since claims 4, 8 and 15 are dependent upon claim 1, and Sugimoto fails to cure the deficient teachings of Iida, in regard to claim 1, Applicant submits that claims 4, 8 and 15 are patentable at least by virtue of their dependency.

IV. Rejections under 35 U.S.C. § 103(a) in view of Iida and U.S. Patent No. 5,860,212 to Matsuhira (“Matsuhira”).

The Examiner has rejected claim 5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida in view of Matsuhira. However, since claim 5 is dependent upon claim 1, and Matsuhira fails to cure the deficient teachings of Iida, in regard to claim 1, Applicant submits that claim 5 is patentable at least by virtue of its dependency.

V. Rejections under 35 U.S.C. § 103(a) in view of Iida and U.S. Patent No. 5,179,460 to Hinata et al. (“Hinata”).

The Examiner has rejected claim 7 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hinata. However, since claim 7 was canceled, without prejudice or disclaimer, and incorporated into claim 1, Applicant refers to the Examiner to the comments

presented above. In addition, Applicant submits that Hinata fails to cure the deficient teachings of Iida in regard to claim 1.

VI. Rejections under 35 U.S.C. § 103(a) in view of Iida and U.S. Publication No. 2003/0137629 to Ichioka et al. (“Ichioka”).

The Examiner has rejected claim 9 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida in view of Ichioka. However, since claim 9 is dependent upon claim 1, and Ichioka fails to cure the deficient teachings of Iida, in regard to claim 1, Applicant submits that claim 9 is patentable at least by virtue of its dependency.

VII. Rejections under 35 U.S.C. § 103(a) in view of Iida and U.S. Patent No. 5,587,169 to Yamazaki (“Yamazaki”).

The Examiner has rejected claim 10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida in view of Yamazaki. However, since claim 10 is dependent upon claim 1, and Yamazaki fails to cure the deficient teachings of Iida, in regard to claim 1, Applicant submits that claim 10 is patentable at least by virtue of its dependency.

VIII. Rejections under 35 U.S.C. § 103(a) in view of Iida and U.S. Patent No. 6,124,606 to Den Boer et al. (“Den Boer”).

The Examiner has rejected claims 12 and 13 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida in view of Den Boer. However, since claims 12 and 13 are dependent

upon claim 1, and Den Boer fails to cure the deficient teachings of Iida, in regard to claim 1, Applicant submits that claims 12 and 13 are patentable at least by virtue of their dependency.

In addition, the Examiner alleges that, “Den Boer et al discloses in figure 4 a circumference of the first conductive and second conductive column from a cross section perpendicular to a surface of the first substrate has an arched shape. (88) (90)” (page 7 of Office Action).

Applicant submits that elements (88) and (90) of Den Boer do not disclose a first and second conductive column. Rather, Den Boer discloses that elements (88) and (90) are merely *contact holes* formed on TFT substrate (col. 5, lines 35-48).

IX. Rejections under 35 U.S.C. § 103(a) in view of Iida

The Examiner has rejected claim 17 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida. However, since claim 17 contains features that are analogous to the features recited in claim 1, Applicant submits that claim 17 is patentable for at least analogous reasons as set forth above.

X. Rejections under 35 U.S.C. § 103(a) in view of Iida and U.S. Patent No. 4,640,583 to Hoshikawa et al. (“Hoshikawa”).

The Examiner has rejected claim 18 and 19 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida in view of Hoshikawa.

A. Claim 18

Claim 18 recites forming a ground column from an elastic resin on a first substrate, and covering a ground column with a first electrode so as to form at least one first conductive column.

For the reasons set forth above for claims 1 and 17, Applicant submits that Iida does not disclose the ground column and the first conductive column. In addition, Applicant submits that Hoshikawa fails to cure the deficient teachings of Iida. Therefore, Applicant submits that claim 18 is patentable over the cited references and respectfully requests the Examiner to reconsider and withdraw the rejection.

B. Claim 19

Since claim 19 has been canceled, without prejudice or disclaimer, and has been incorporated into claim 18, Applicant refers the Examiner to the comments presented above.

XI. Rejections under 35 U.S.C. § 103(a) in view of Iida, Hoshikawa and U.S. Patent No. 5,684,555 to Shiba et al. ("Shiba").

The Examiner has rejected claims 20 and 21 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida, Hoshikawa and Shiba. However, since claims 20 and 21 are dependent upon claim 18, and Shiba fails to cure the deficient teachings of Iida and Hoshikawa, in regard to claim 18, Applicant submits that claims 20 and 21 are patentable at least by virtue of their dependency.

XII. Rejections under 35 U.S.C. § 103(a) in view of Iida, Hoshikawa, Shiba and U.S. Patent No. 6,671,009 to Hattori et al. (“Hattori”).

The Examiner has rejected claims 16 and 22 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida in view of Hoshikawa, Shiba, and Hattori. However, since claim 16 is dependent upon claim 1 and claim 22 is dependent upon claim 18, and Hoshikawa, Shiba and Hattori fail to cure the deficient teachings of Iida, in regard to claims 1 and 18, Applicant submits that claims 16 and 22 are patentable at least by virtue of their dependency.

In addition, with further regard to claim 22, the Examiner alleges that, “Hattori et al discloses (column 1, row 62-66), rubbing an alignment film surface in a predetermined direction. It is known method to have to rub the alignment film in a predetermined direction to form pretilt desired angles” (pg. 10 of Office Action). However, claim 22 recites rubbing an alignment film formed on a first electrode or each of a first electrode and pixel electrodes, in correspondence with a lengthwise direction of the first conductive column or each of the first conductive column and the second conductive column along a surface of the first substrate and the second substrate. Therefore, the amount of small pieces of material scraped off by rubbing performed on the substrates, and remaining after rubbing, can be limited. However, Hattori does not disclose or acknowledge the problem regarding small pieces of material scraped off by rubbing. Rather, the reference just states a direction to form a pretilt desired angle. Accordingly, Hattori does not cure the deficient teachings of Iida, Hoshikawa and Shiba.

Amendment under 37 C.F.R. § 1.111
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XIII. Rejections under 35 U.S.C. § 103(a) in view of Iida, Hoshikawa, and U.S. Patent No. 6,396,559 to Kishimoto ("Kishimoto").

The Examiner has rejected claim 23 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Iida, Hoshikawa and Kishimoto. However, since claim 23 is dependent upon claim 18, and Kishimoto fails to cure the deficient teachings of Iida and Hoshikawa, in regard to claim 18, Applicant submits that claim 23 is patentable at least by virtue of its dependency.

XIV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

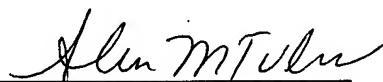
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AMENDMENTS TO THE DRAWINGS

Applicant submits herewith 3 formal replacement sheets of drawings for Figures 1-4.

Attachment: 3 Replacement Sheets